KACEROVSKY, Vladimir

Automatic pump switching without using floats and electrodes.
Elektrotechnik 17 no.12:355-356 D '62.

KACH, A. M.

"The Question of Computing the Quadratic Criterion for the Quality of the Regulation"

Prik. Mat. Mech. 16, 362-364, 1952.

GORBATYUK, N.V.; TIMOFEYEV-RESOVSKIY, N.V.; Prinimal uchastiye: KACH, A.Z.

Highest permissible rates of radioactive pollution of air and water. Reports No.1 and No.2. Trudy Ural. otd. MOIP no.2:163-194 '59. (MIRA 14:11)

(Water--Pollution)
(Air--Pollution)

KACHA, F.

Safety and standardization . p. 55.

Normalizace. (Urad pro normalizace) Praha, Czechoslovakia.
Vol. 7, no. 4, Oct. 1959

Monthly list of East European Accessions (EEAI) LC, vol. 9, no. 1, Jan. 1960

Uncl.

1. KACHAKHIDZE, A.B.
2. USSR (600)
4. Science
7. The Changeability of microbes and immunity. S.I. Berulava, Pod.Red. A. B. Kachakhidze. Tibilisi, 1951

9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

KACHAKHIDZE, A. V.

"Dry Virus-Vaccine for Asiatic Fowl Plague." Cand Vet Sci, Yerevan Zooveterinary Inst, Tbilisi, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

KACHAKHIDZE, A.V.; DZHEYRANISHVILI, V.V., uchenyy sekretar'.

Twenty-fifth anniversary of the Georgian Scientific Research Institute of Veterinary Science. Veterinariia 32 no.5:93-94 My '55. (MLRA 8:7)

1. Direktor Gruzinskogo nauchno-issledovatel'skogo veterinarnogo instituta (for Kachakhidze).
(GEORGIA--VETERINARY RESEARCH)

KACHAKHIDZE, A.V.

USSR/Diseases of Farm Animals. Diseases Caused by Viruses and Rickettsiae R-1

Abs Jour : Ref Zhur-Biol., No 1, 1958, 2743

Author : Kachakhidze A. V.
Inst : Georgian Scientific Research Veterinary Institute
Title : Dry Virus-Vaccine of Asiatic Plague of Birds and the Investigation of its Effectiveness

Orig Pub : Tr. Gruz. n-i vet. in-ta, 1955, 11, 33-53

Abstract : No abstract

Card 1/1

USSR / General Problems of Pathology; Immunity. U

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102387.

Author : Kachakhidze, A. V.; Dzhamrulidze, Ya. E.; Chemidze, G. T.; Samadashvili, D. N.
Inst : Georgian Scientific-Research Veterinary Institute.
Title : The Dry Complement of Guinea Pig for the Complement Fixation Reaction.

Orig Pub: Tr. Gruzinsk. n.-i. vet. in-ta, 1955, 11, 281-282.

Abstract: No abstract.

Card 1/1

---

~~[illegible]~~ KACHAKHIDZE, A. V.

USSR/Diseases in Farm Animals. Diseases Caused by Viruses and Rickettsiae. R

Abs Jour: Ref Zhur-Biol., No 5, 1958, 21615.

Author : Kachakhidze
Inst : Georgian Scientific Research Institute of Animal Husbandry and Veterinary Sciences.
Title : Dry Virus Vaccine for the Immunization of Poultry.

Orig Pub: Byul. nauchno-tekhn. inform. Gruz. n.-i. in-ta zhivotnovodstva i vet., 1957, No 2, 27-30.

Abstract: No abstract.

Card : 1/1

KACHAKHIDZE, A.V., kand. veter. nauk

Immunobiological characteristics of dry virus vaccine from the strain N. Veterinariia 41 no.7:19-20 Jl '64. (MIRA 18:11)

1. Gruzinskiy zooveterinarnyy uchebno-issledovatel'skiy institut.

2 L [illegible]-66 EWT(1)/EWA(j)/EWA(b)-2 JK

ACC NR: AP5028194 SOURCE CODE: UR/0346/65/000/009/0038/0041

44,55

AUTHOR: Kachakhidze, A. V. (Aspirant) 38

ORG: Ukrainian Scientific Research Institute of Experimental Veterinary Medicine (Ukrainskiy nauchno-issledovatel'skiy institut eksperimental'noy veterinarii) B 44,55

TITLE: Simultaneous vaccination 44,55 against infectious laryngotracheitis and fowlpox

SOURCE: Veterinariya, no. 9, 1965, 38-41

TOPIC TAGS: vaccine, immunization, fowlpox, virus disease, veterinary medicine

ABSTRACT: Infectious laryngotracheitis and fowlpox have become widespread in the Soviet Union in recent years. Since they frequently occur at the same time, diagnosis and treatment are difficult. The purpose of this work was to compare the effects of simultaneous and separate vaccination of chicks against the two diseases, using the R strain of the laryngotracheitis virus and the GNKI strain of the fowlpox virus. The former produced 100% immunity when injected into the skin of the hock joint of the fowls and there were no complications. Simultaneous immunization was found to be superior to separate immunization both in the production of immunity and in the simplicity of the inoculation technique. Orig. art. has: 2 tables.

SUB CODE: 06/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

UDC: 619 : 616.988.13=085.37+616.988.73=085.37:636.5

Card 1/1

Z

SICHINAVA, G.N., kand.med.nauk; DARASELIYA, I.N., kand.med.nauk; KACHAKHIDZE, E.G.

Treatment of supperative processes in the lungs by intratracheal injection of antibiotics and by aerosol therapy. Sbor. trud. Med. nauch. ob-vo Abkh. 2:157-164 '59. (MIRA 14:10)

1. Iz Respublikanskoy bol'nitsy imeni prof. A.A.Ostroumova Ministerstva zdravookhraneniya Abkhazskoy ASSR (glavnyy vrach G.N.Nadareyshvili).
(ANTIBIOTICS) (AEROSOL THERAPY)
(LUNGS—DISEASES)

KANDELAKI, B.S.; ARUTYUNOVA, L.B.; KACHAKHIDZE, T.G.; MORAKIDZE, T.K.;
TEVZADZE, K.P.

Objective methods of evaluating the quality of black tea.
Izv.vys.ucheb.zav.; pishch.tekh. no.6:130-135 '59.
(MIRA 13:5)

1. Gruzinskiy politekhnicheskiy institut imeni V.I.Lenina.
Kafedra fizicheskoy i kolloidnoy khimii.
(Tea--Analysis)

NECHIPORENKO, Z.Yu. [Nechyporenko, Z.IU.]; KACHALA, G.M. [Kachala, H.M.]

Content of ATP and products of its conversion in gopher muscles.
Ukr. biokhim. zhur. 36 no.2:243-252 '64. (MIRA 17:11)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

POLAND/Radio Physics - Generation and Conversion of Radio Frequency I-3
Oscillations

Abs Jour : Ref Zhur- Fizika, No 5, 1959, No 11241

Author : Smolarski A., Kachalik R.
Inst : -
Title : Dependence of the Frequency Coefficient of a Magnetron Transmitter on the Load

Orig Pub : Prace Przemysl. inst. telekomun., 1958, 8, No 24, 47-52

Abstract : The authors determine the conditions under which thechange in load affects little the stability of frequency of a magnetron oscillator. Several examples of numerical calculation are given. -- Author's resume

Card : 1/1

KACHALINA, L.N.; SLEZINGER, G.E., kand.tekhn.nauk; KATSMAN, A.B., red.; GAVRIN, P.N., tekhn.red.

[Mechanization of administrative work abroad; review based on foreign sources] Mekhanizatsiia upravlencheskogo truda za rubezhom; obzor po inostrannym istochnikam. Moskva, Vses. in-t nauchn. i tekhn.informatsii, 1959. 45 p. (MIRA 13:6)

1. Ekonomist otdela ratsionalizatsii upravlencheskogo truda Nauchno-issledovatel'skogo instituta truda Gosudarstvennogo Komiteta Soveta Ministrov SSSR po voprosam truda i zarabotnoy platy (for Kachalina). 2. Ispolnyayushchiy obyazannosti zaveduyushchego otdelom ratsionalizatsii upravlencheskogo truda Nauchno-issledovatel'skogo instituta truda Gosudarstvennogo Komiteta Soveta Ministrov SSSR po voprosam truda i zarabtonoy platy (for Slezinger).
(Office equipment and supplies)

KACHALINA, L.

Comprehensive mechanization of administrative work. Biul. nauch.inform.; trud i zar.plata no.2:61-67 '59. (MIRA 12:5)

(United States--Office equipment and supplies)

KACHALINA, YE. V.

KHOKHLOV, A.S.; KACHALINA, Ye.V.

Chemical study of phenoxymethylpenicillin. Report no.2: Formation and properties of phenoxymethylpenilloic acid. Antibiotiki, 2 no.2:7-11 Mr-Ap '57 (MLRA 10:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN, related cpds.
phenoxymethylpenicillin acid form. from phenoxymethyl penicillin)

KACHALINA, Ye. V., KAMOKINA, Z. F., KHOKHLOV, A. S., INOZEMTSEVA, I. I.,
KLEYNER, Ye. M., and MELLER~~S~~, F. M. (Moscow)

"Zur Chemie des Phenoxymethylpenicillins,"

**paper presented at the 4th Intl. Congress of Biochemistry, Vienna, 1-6 Sep 58.**

KACHALINA, Ye. V.: Master Chem Sci (diss) -- "Investigation of certain chemical transformations of phenoxymethyl penicillin". Moscow, 1959. 19 pp (Min Health USSR, All-Union Sci Res Inst of Antibiotics) (KL, No 18, 1959, 121)

KHOKHLOV, A.S.; KACHALINA, Ye.V.

Chemical studies on phenoxymethylpenicillin. Report No.5: Production and studies on the stability of desthiophenoxymethylpenicillin. Antibiotiki 4 no.3:3-8 My-Je '59. (MIRA 12:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN, rel. cpds.
dethio-penicillin V, prep. & stability (Rus))

KHOKHLOV, A.S.; KACHALINA, Ye.V.

Chemical properties of phenoxymethylpenicillin. Report No. 4: Production and properties of x-phenoxymethylpenicillamide of phenoxymethylpenicilleic acid. Antibiotiki 5 no. 5:41-44 S-O '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIN)

SOBOLEVSKIY, Konstantin Yul'yevich; KACHALKIN, A., red.; GALITSKIY, B., tekhn. red.

[Recommendations to young mechanics]Sovety molodomu slesariu. Kaluga, Kaluzhskoe knizhnoe izd-vo, 1960. 50 p. (MIRA 15:8)
(Metal cutting)

LIKIN, Aleksandr Ivanovich; GRIBOV, Il'ya Gavrilovich; REMENNIKOV, Izrail' Solomonovich; YURCHENKO, I.F., inzh., red.; MANIN, I.I., retsenzent; KACHALKIN, A.F., retsenzent; KOLTUNOVA, M.P., red.; VERINA, G.P., tekhn. red.

[Wages of workers engaged in locomotive operation, maintenance and repair; handbook] Oplata truda rabotnikov lokomotivnogo khoziaistva; spravochnik. Pod obshchei red. I.F.IUrchenko. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 254 p. (MIRA 15:2)

(Wages—Railroads)

LEONOVICH, B.N.; ALEKSEYEV, Ye.Ye.; IVANOV, A.I.; KOTSYUBNYAK, A.V.;
KACHALKIN, A.P.; TUZHILKIN, A.P.; KUDRYAVSKIY, R.T., mashinist;
SHAPIRO, M.M.

Brief resumé of the speeches made at the conference of the representatives of the collectives and shock workers of communist labor engaged in the operation and maintenance of locomotives. Elek. i tepl. tiaga 7 no.9:1-7 S '63. (MIRA 16:10)

1. Nachal'nik depo Grebenka Yuzhnoy dorogi (for Leonovich).
2. Nachal'nik depo kommunisticheskogo truda Moskva-Sortirovochnaya (for Alekseyev). 3. Nachal'nik depo kommunisticheskogo truda Liski Yugo-Vostochnoy dorogi (for Ivanov). 4. Obshchestvennyy mashinist-instruktor, sekretar' partiynogo byuro depo Mukachevo L'vovskoy dorogi (for Kotsyubnyak). 5. Zaveduyushchiy otdelom zarabotnoy platy i proizvodstvenno-massovoy raboty TSentral'nogo komiteta professional'nogo soyuza rabochikh zheleznodorozhnogo transporta (for Kachalkin). 6. Master tsekha kommunisticheskogo truda po remontu toplivnoy apparatury depo Rtishchevo Privolzhskoy dorogi (for Tuzhilkin). 7. Depo Irkutsk-Sortirovochnyy Vostochno-Sibirskoy dorogi (for Kudryavskiy). 8. Starshiy master depo Tashkent Sredneaziatskoy dorogi (for Shapiro).

AUTHOR: Kachalkin, G.S., Engineer SOV/129-58-12-12/12

TITLE: Investigation of the Sormayt Type Boron-alloyed Carbide (Issledovaniye tverdogo splava tipa sormayt, legirovannogo borom)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 12, pp 58 - 61 (USSR)

ABSTRACT: The aim of the paper was to determine the optimum content of the individual elements in a "sormayt"-type alloy from the point of view of ensuring a high wear resistance. The optimum content of individual elements is as follows: 2.75-3.5% C, 3-4% Si, 0.5-1.25% Mn, ≤ 0.05% P, ≤ 0.05% S, 24-30% Cr, 5-7% Ni, 0.2-0.5% B (Ref 1). This alloy has been designated as "Sormayt 1V" (Author's Certificate Nr 86033). The wear tests were carried out in two stages: at first under laboratory conditions in which the rubbing pair consisted of flat rotating disc—specimen; following that, some of the components were tested under shop conditions. It was found that there is a linear relation between the content of boron in the alloy and the content of boron in the carbides and in the solution (see graph, Figure 2). The hardness of sormayt containing boron was higher by a few units than for the same material without

Card1/3

SOV/129-58-12-12/12

Investigation of the Sormayt Type Boron-alloyed Carbide

boron. With increasing boron content up to 0.55%, the carbides of the investigated alloys become finer. The coefficient of linear expansion of boron-containing sormayt approaches that of steel containing 0.4-0.6% C, particularly of the steel U8A. This results in a 5 to 10-fold increase in the service life of hard-faced components and, compared with "Nr 1 sormayt", the service life is increased by 30-100%. Introduction of boron brings about a cost increase of 2-3% of the sormayt; the rate of burning-off of boron during the manufacture of boron-containing sormayt in high-frequency electric furnaces is 12-18%. The optimum thickness of layers hard-faced with sormayt is 0.5-2.5 mm; in individual cases, a thickness of 5-7 mm is permissible. Hard-facing with a thickness exceeding 1.5 mm has to be carried out in several layers.

Card 2/3

KACHALKIN, G. S., Cand Tech Sci -- (diss) "Research into cast, solid alloys of the sormayt, alloyed boron type." Gor'kiy, 1960. 17 pp including cover, with illustrations; (Ministry of Higher and Secondary Specialist Education USSR, Gorkiy Polytechnic Inst im A. A. Zhdanov); 225 copies; price not given; (KL, 17-60, 154)

POGREBNOY, Aleksey Yevtikhiyevich; KACHALKINA, N.A., redaktor; KIRSANOVA,
tekhnicheskiy redaktor [redacted]

[Dissemination of technical information in the club] Proizvodstvenno-tekhnicheskaia propaganda v klube. 2-oe perer. izd. [Moskva]
Izd-vo VTsSPS Profizdat, 1954. 87 p. (MIRA 8:7)
(Technical education)

KARDASHEV, Nikolay Nikolayevich; KACHALKINA, E.A., redaktor; KIRSANOVA, N.A., tekhnicheskiy redaktor

[An evening devoted to the theme "Minutes make hours."] Tematicheskii vecher "Minuta chas berezhet." [Moskva] Izd-vo VTsSPS Profizdat, 1956. 39 p. (MIRA 10:1)

1. Predsedatel' pravleniya kluba zavoda VEF (for Kardashev)
(Efficiency, Industrial)

OL'SHANSKIY, N.A., kand. tekhn. nauk; MORDVINTSEVA, A.V., kand. tekhn. nauk
ZORIN, Yu. N., inzh.; KACHALO, V.M., inzh.

Chambers with controlled atmosphere for welding active metals.
Avtom. svar. 11 no.11:32-36 N '58. (MIRA 11:12)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana i
Moskovskiy energeticheskiy institut im. Molotova.
(Electric welding) (Protective atmospheres)

KACHALOV, A.

One of many. NTO 4 no.9:32-33 S '62. (MIRA 16:1)

1. Chlen Nauchno-tekhnicheskogo obshchestva gorodskogo khozyaystva i avtomobil'nogo transporta, rabotnik gazety "Leningradskiy tramvay".

(Leningrad—Technological innovations)

BYCHKOVA, N.M., inzh.; KACHALOV, A.A., slushatel'; VALUYKIN, G.G., slushatel'; KASHIN, V.T., slushatel'

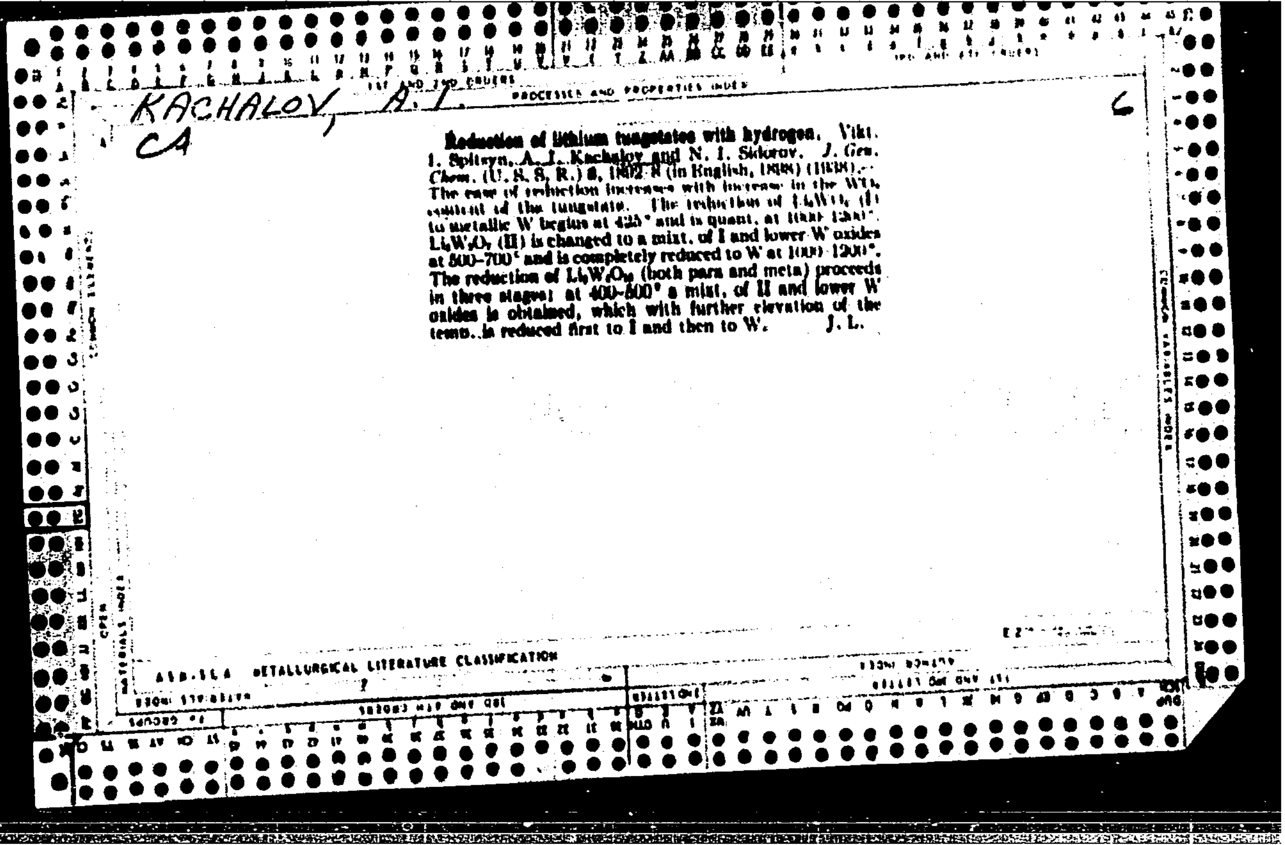
Fire hazard indices of some liquids. Pozh. bezop. no.3:59-63 '64. (MIRA 18:5)

BOKIY, G.B.; KACHALOV, A.I.

Crystalline forms of astrakhanite. Vest.Mosk.un.Ser. 4:Geol. 18
no.2:58-60 Mr-Ap '63. (MIRA 16:5)

1. Kafedra kristallografii i kristallokhimii Moskovskogo universiteta.

(Bloedite)



KACHALOV, A.I.

CA

6

PROCESSES AND PROPERTIES INDEX

**Reduction of lithium tungstates with hydrogen.** Vikt. I. Spitsyn, A. I. Kachalov and N. I. Sidorov. *J. Gen. Chem.* (U.S.S.R.) 8, 1882-8 (in English, 1898) (1938).—The ease of reduction increases with increase in the $WO_3$ content of the tungstate. The reduction of $Li_2WO_4$ (I) to metallic W begins at 425° and is quant. at 1100-1200°. $Li_2W_2O_7$ (II) is changed to a mixt. of I and lower W oxides at 600-700° and is completely reduced to W at 1000-1200°. The reduction of $Li_2W_4O_{13}$ (both para and meta) proceeds in three stages: at 400-600° a mixt. of II and lower W oxides is obtained, which with further elevation of the temp. is reduced first to I and then to W. J. L.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KACHALOV, A. I.

CA

18

PROCESSES AND PROPERTIES INDEX

Methods of recrystallization of the astrakhanite salt mixture and the development of the Kara-Bogaz Bay salt industry. V. I. Nikolaev and A. I. Kachalov. *Uspekhi Khim.* 9, 620-41(1940).—The diagram of the system $2NaCl + MgSO_4 \rightleftharpoons MgCl_2 + Na_2SO_4$ and its application to the Kara-Bogaz brines, as well as the age of the brines and their probable future in the light of natural geological causes are discussed. F. H. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

KACHALOV, A. I.

CA

18

**Utilization of "mixed salt" and unsaturated brines for the preparation of sodium sulfate.** V. I. Nikolaev and A. I. Kachalov. *J. Applied Chem.* (U. S. S. R.) 13, 1530-8(1940).—A max. yield of $Na_2SO_4$ was obtained, amounting to 90 kg. per cu. m. of brine in which the ratio of $NaCl:MgSO_4.7H_2O \approx 1$. The brine was prepd. by dissolving "mixed salt" (prepd. from NaCl and $MgSO_4$) in water at 25°. $Na_2SO_4$ sepd. out on cooling the brine to 0°. The satd. soln. of "mixed salt" in unsatd. brines is recommended, since the yield of $Na_2SO_4$ is greatly increased.

A. A. Podgorny

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

BA. Ab.

A1-1. Preparation of
Inorganic Substances

Separate production of Glauber's salt and epsomite from natural [illegible] (Compt. rend. Acad. Sci. U.R.S.S., 1941, [illegible]).—[illegible] at 25° is cooled to <0°, almost pure [illegible] (I) is pptd. After pptn. of (I), brine containing $MgCl_2$ is added to the mother-liquor + $MgSO_4$ in the right proportions. Slight evaporation and cooling gives pptn. of $MgSO_4,7H_2O$.

A. J. M.

KACHALOV, A.I.

27

Distr: [illegible] [illegible] salts of oxygen acids of chlorine [illegible]

1/1

5(2)

AUTHORS: Kachalov, A. I., Bykova, I. G. SOV/32-25-3-11/62

TITLE: Joint Determination of Chlorite and Hydrogen Peroxide in the Presence of Chlorides, Chlorates, Carbonates, and Alkali Lyes (Sovmestnoye opredeleniye khlorita i perekisi vodoroda v prisutstvii khloridov, khloratov, karbonatov i yedkikh shchelochey)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 3, pp 289 - 290 (USSR)

ABSTRACT: In the production of sodium chloride by a reduction of chlorine dioxide with hydrogen peroxide the concentration of the reacting substances must be checked. Several suggestions were made for the determination of chlorite (Ref 1), however none of them refers to a determination of sodium chlorite in the presence of hydrogen peroxide. The following method is recommended: First, the sum of sodium chlorite + hydrogen peroxide is iodometrically determined, hydrogen peroxide is then destroyed and only the sodium chlorites are iodometrically determined. Experiments were carried out with

Card 1/2

Joint Determination of Chlorite and Hydrogen Peroxide SOV/32-25-3-11/62
in the Presence of Chlorides, Chlorates, Carbonates, and Alkali Lyes

$MnO_2$, Raney nickel, lead dioxide, etc for the destruction of hydrogen peroxide, and it was found that the best effect is obtained with lead dioxide. This method of determination was checked with technical products (with 65-80% chlorite) (Table) and it was found that the presence of chlorides, chlorate, and carbonate does not disturb the analysis. Its accuracy meets the demands of an operational control. There are 1 table and 1 Soviet reference.

Card 2/2

KACHALOV, A.I., kand.khim.nauk; BYKOVA, I.G.

Activation of chlorate for pulp bleaching. Bum.prom. 34 no.7: 5-7 Jl '59. (MIRA 12:10)
(Woodpulp) (Chlorates)

KACHALOV, A.I., kand.tekhn.nauk; BYKOVA, I.G.; CHASHCHIN, V.I.

Industrial method of the production of chlorine dioxide.
Bum.prom. 34 no.8:14-16 Ag '59. (MIRA 12:12)
(Chlorine oxide) (Woodpulp)

KACHALOV, A.I., kand.khim.nauk, BYKOVA, I.G.

Preparation of chlorine dioxide for small consumers. Khim. prom. 2:164-166 My '60. (MIRA 13:7)
(Chlorine oxide)

S/064/60/000/004/016/021/XX
B013/B063

AUTHORS: [redacted], Candidate of Chemical Sciences, Bykova, [redacted], L. N., Chashohin, V. I.

TITLE: Industrial Production of Sodium Chlorite

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 4, pp. 72-75

TEXT: The authors have worked out and tested a scheme for the continuous production of chlorine dioxide and sodium chlorite from sodium chlorate. Methanol and hydrogen peroxide are used for reduction in the first and second stage, respectively. Chlorine dioxide is obtained in three successively operating steel vessels (7), lined with diabase and having an attachment of Raschig rings. A mixture of a sodiumchlorate solution and 25-35% methanol is gradually heated as it passes through the reaction vessels (from 60 to 80°C). The residue from the last vessel is discharged. The resulting chlorine dioxide is diluted with air until an explosion-proof concentration is reached (not more than 10%). The diluted chlorine dioxide is then passed into a cascade of three absorbers of the bubbling

Card 1/4

type (8). 30% hydrogen peroxide is passed into all three absorbers, and an alkaline solution with a concentration of 160 g/l is poured into the last absorber. Temperature is maintained at 0-2°C. Sodium-chlorite solutions with a content of 140-160 g/l $NaClO_2$, 15-20 g/l NaCl, 30-40 g/l $Na_2CO_3$, and 0.5-1.0 g/l $H_2O_2$ are obtained after absorption. Sodium chlorite is evaporated in vacuo between 70 and 80°C. Subsequently, the sodium-chlorite solution (concentration: 350-400 g/l) is passed through a crystallizer (14) with a temperature of -5 to -10°C and then filtered by a suction filter. The initial solution may be used again, while the sodium chlorite may be put at the consumer's disposal. Only an absolutely dry product can be stored in sealed containers for several years. Sodium chlorite can be dried either in a vacuum drying apparatus at 70-80°C or with the use of dry air in a boiling layer at room temperature. The last-mentioned method appears to be more promising. Dried commercial sodium chlorite contains 80-85% $NaClO_2$, 10-12% NaCl, and 5-8% $Na_2CO_3$. The method suggested is undangerous and very convenient, provided the production process is carefully checked and technical specifications are strictly observed. The concentration of chlorine dioxide in the reaction gas was measured with an automatic photo-

✓

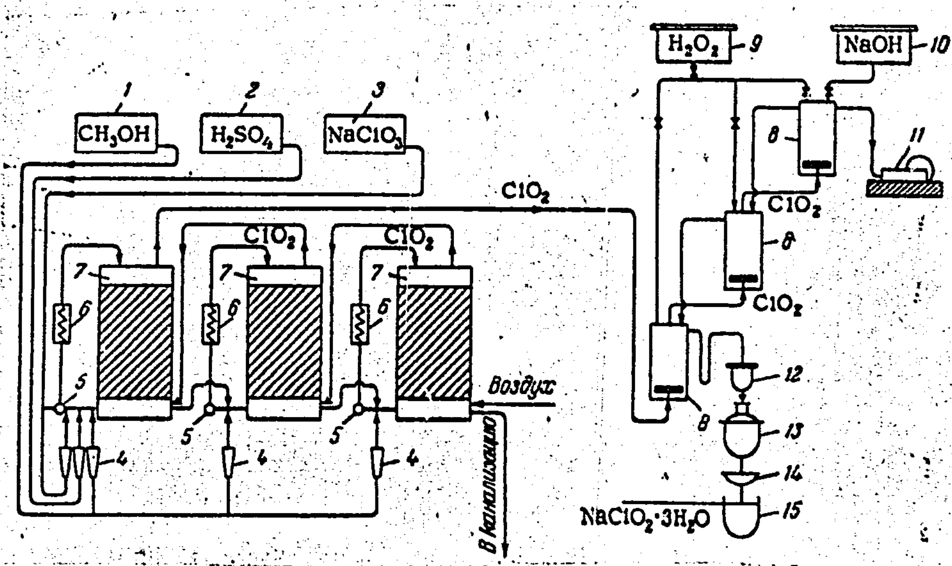
Industrial Production of Sodium Chlorite S/064/60/000/004/016/021/XX
B013/B063

colorimeter provided with ФКС-М (FKS-M) photoresistors. The process is automatically checked and controlled by measuring the redox potential with a couple of platinum (iridium)-calomel electrodes. The potentials were recorded by an ЭПД (EPD) potentiometer. The formation of sodium chlorite may be determined from the redox potential. The method of potentiometric checking is recommended for use in the automation of industrial plants producing sodium chlorite. An automatic photocolorimeter is recommended for the determination of the concentration of chlorine dioxide. There are 3 figures, 1 table, and 8 non-Soviet references.

Legend to Fig. 1: 1, 2, 3, 9, 10: Measuring vessels; 4: rotameter; 5: pumps; 6: heat exchanger; 7: reaction vessels; 8: absorbers; 11: PMK-2 (RMK-2) vacuum pump; 12: alkali collector; 13: vacuum evaporator; 14: crystallizer; 15: suction filter.

Card 3/4

S/064/60/000/004/016/021/XX
B013/B063



Card 4/4

KACHALOV, A.I., kand.khim.nauk; BYKOVA, I.G.; BALASHOV, L.N.;
CHASHCHIN, V.I.

Industrial method of preparation of sodium chlorite.
Khim.prom. no.4:336-339 Je '60. (MIRA 13:8)
(Sodium chlorite)

KOROVIN, V.I.; BEYLINSON, M.M.; KAZANTSEVA, I.V.; KACHALOV, D.A.;
SAFONOV, G.A.

Relation between water runoff, atmospheric pressure, temperature, and deficient humidity. Trudy Kaz.NIGMI no.16:20-24 '61.
(MIRA 15:5)

(Meteorology) (Bugun' Valley—Runoff)

KACHALOV, I.

Politics and Government - Germany

"Problems in building a single, democratic, peace-loving German State." Reviewed by I. Kachalov. Vop. ekon., No. 6, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, SEPTEMBER 1952, UNCLASSIFIED.

~~Bakumenko, A.~~

BAKUMENKO, A.; KACHALOV, I.

[redacted]

Forty years of the development of a socialist economy ("The Soviet Socialist economy, 1917-1957". Reviewed by A. Bakumenko; I. Kachalov. Vop.ekon. no.12:131-138 D '57. (MIRA 11:1)

(Russia--Economic conditions)

OLEYNIK, I.P., kand. ekon. nauk, nauchn. sotr.; VOINOV, A.M., nauchn. sotr.; SEMENOV, I.I., nauchn. sotr.; PLAKSIN, S.V., nauchn. sotr.; KACHALOV, I.P., nauchn. sotr.; SEMENOVA, L.S., nauchn. sotr.; STOROZHEV, I.V., nauchn. sotr.; GERTSOVICH, G.B., nauchn. sotr.; SERGEYEV, V.P., nauchn. sotr.; ALIKHODZHICH, A., nauchn. sotr.; LISOV, V.Ye., red.; NIKOLAYEV, D.N., red.; PONOMAREVA,A.A., tekhn. red.

[International socialist division of labor] Sotsialisticheskoe mezhdunarodnoe razdelenie truda. Pod red. I.P.Oleinika. Moskva, Izd-vo ekon. lit-ry, 1961. 350 p. (MIRA 14:11)

1. Akademiya nauk SSSR. Institut ekonomiki mirovoy sotsialisticheskoy sistemy. 2. Institut ekonomiki mirovoy sotsialisticheskoy sistemy AN SSSR (for all except Lisov, Nikolayev, Ponomareva).
(Communist countries—Division of labor)

**KACHALOV, I.P.**, kandidat ekonomicheskikh nauk.

Basic law in the economics of socialism. Nauka i zhizn' 20 no.5:1-5 My '53. (MLRA 6:6)

(Russia--Economic policy)

**BRUNOVSKIY, V.; KACHALOV,M.**

Machine-Tractor Stations

Leading mechanizers of northern Kazakhstan. MTS 12 no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952 ~~1953~~, Uncl.

KACHALOV, M.M.

Glass. Nauka i zhittia 11 no.10:26-28 0 '61. (MIRA 15:1)

1. Chlen-korrespondent AN SSSR. (Glass)

KACHALOV, M.P.

"Underground and surface waters of the Buryat A.S.S.R. as a source of rural supply" by G.V.Kopanev. Reviewed by M.P.Kachalov. Gidr. i mel. 13 no.5:62 My '61. (MIRA 14:5)

1. Giprovodkhoz Ministerstva sel'skogo khozyaystva SSSR.
(Buryat-Mongolia—Water supply, Rural)
(Kopanev, G.V.)

KACHALOV M.P.

PA 27T14

KACHALOV, M. P.

Jul/Aug 1947

USSR/Drilling
Lime

"Using Lime Jigging for Drilling Through Water-bearing Strata by Rotary Means," M. P. Kachalov, 6 pp

"Razvedka Nedr" No 4

The use of lime compounds in bores has become very popular, especially when drilling through water-bearing layers. The author gives a general discussion of this method of drilling. He states that it is necessary to have a lime solution of good viscosity and colloidal nature. The process of cleaning the bore of lime is easy and merely consists of two or three washings with clean water followed by three to five washes with a bailing sludge pump.

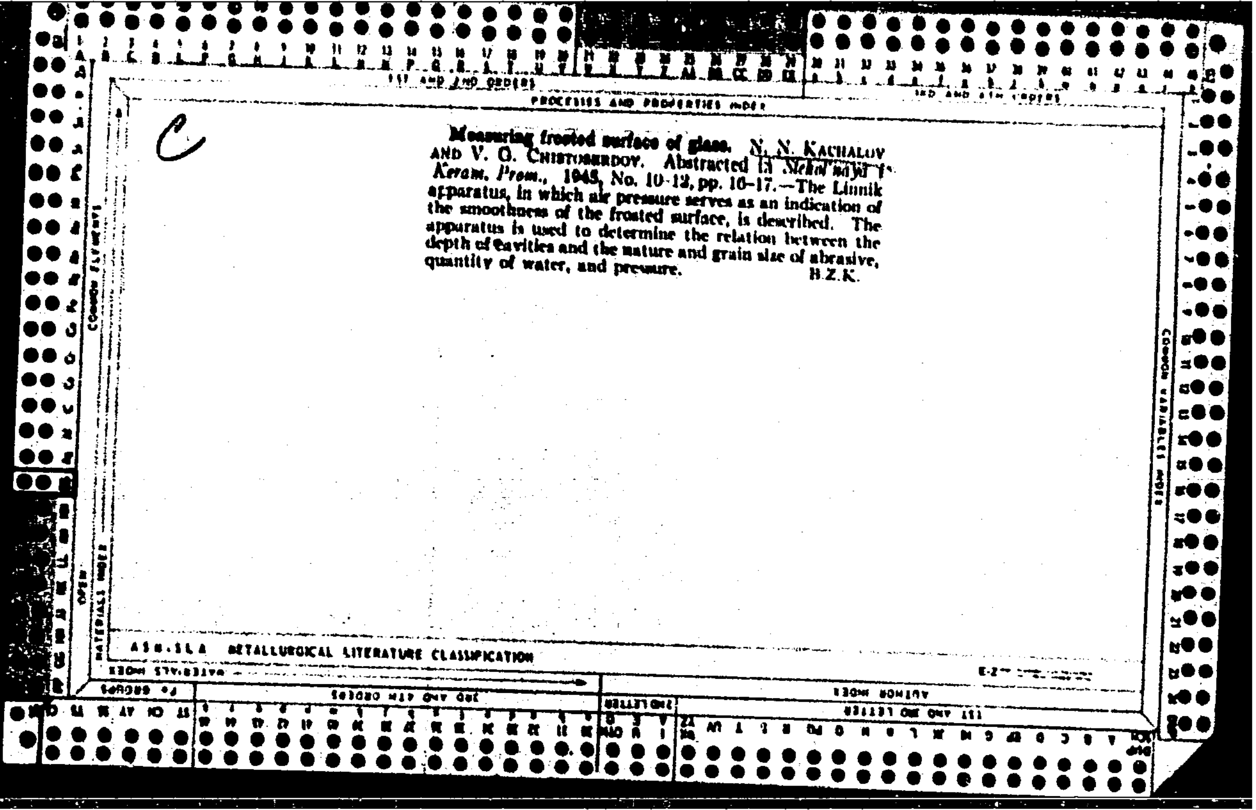
27T14

LC

KACHALOV, M.P.

Quality of boring water wells. Vod. i san. tekh. no.8:28-30 Ag '58. (MIRA 11:9)

(Boring)



C

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

**Measuring frosted surface of glass.** N. N. KACHALOV AND V. O. CHISTOSERDOV. Abstracted in *Steklo i Keram. Prom.*, 1945, No. 10-12, pp. 16-17.—The Linnik apparatus, in which air pressure serves as an indication of the smoothness of the frosted surface, is described. The apparatus is used to determine the relation between the depth of cavities and the nature and grain size of abrasive, quantity of water, and pressure. B.Z.K.

KACHALOV, N

N

Osnovy Protsessov Shlifovki i Polirdyki Stekla. (Principal processes in grinding and polishing of glass) Moskva, IZD-VO Akademi i Mauk, 1946
275 p. illus., Diagrs., Tables. at head of title: Akadeniya Nauk SSSR.
"Knigi": p. 245-(250)

Deals with experimental material. Gathered within 6 years by the laboratory for cold treatment of glass under author's direction of Ghair Glass technology at the Leningrad Order Labour Red Banner of the Chemical Technical Institute (men) Lensoviet.

Prof., Leningrad Chemico-Technological Inst. im. the Leningrad Soviet.

KACHALOV, N.N.

C

PROCESSES AND PROPERTIES INDEX

**Calcination of copperas to obtain crocus for polishing.** N. N. KACHALOV, V. G. CHRISTOSERDOV, AND I. V. GREBENSHCHIKOV. Abstracted in *Steklo'naya i Keram. Prom.*, 1946, No. 3, pp. 19-21.—At temperatures up to 60°C., $FeSO_4 \cdot 7H_2O$ is essentially stable although it can be partly oxidized to the trivalent Fe even in the open air. At temperatures above 60°C., there is a partial loss of 3 mol. of water and $FeSO_4 \cdot 4H_2O$ is formed. Above 140° to 145° another 3 mol. is lost and $FeSO_4 \cdot H_2O$ is formed. Upon further heating, loss of water continues and the salt is intensively oxidized to the trivalent form. During the intensive oxidation the unoxidized salt begins to decompose, and after that the $Fe_2(SO_4)_3$ begins to decompose. At 600° a small amount of $\alpha$-$Fe_2O_3$ is formed; with increasing temperature the formation of $\alpha$-$Fe_2O_3$ is speeded up considerably. At low temperatures the crocus formed is fine but, because of the salt residues contained therein, it is hygroscopic and forms clumps. This crocus dissolves in water but still forms some hard grains. Above 700°, some of the individual small crystals of $Fe_2O_3$ become sintered together and form aggregates which may even damage the glass surface. The polishing capacity of the crocus is greater, the lower the calcination temperature; at low temperatures, however, the calcination must be prolonged to avoid incomplete decomposition of the salt. The process should be conducted with the consideration of both of these factors, but in no case should the temperature be above 700°. The addition of soda lowers the calcination temperature, increases yield of product, and improves polishing capacity of the crocus. The pH of the crocus suspension should not be below 3. B.Z.K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KACHALOV, N. N.

C

5-9.41

Polishing Fourcault glass with felt polishers. I. V. GREBENSHCHIKOV, N. N. KACHALOV, AND A. V. GRIG-OREVA. Abstracted in *Stekol'naya i Keram. Prom.*, 1946, No. 7–8, pp. 18–20.—Tests show that Soviet-made felt is not inferior to the imported product for polishing Fourcault glass. Cloth, even with the admixture of cotton, had the same polishing efficiency as the imported felt except for speeds of 470 r.p.m. Under laboratory conditions, best polishing was obtained with a suspension containing 2 to 3 gm. of crocus per 15 cc. of water. The best accelerator in polishing Fourcault glass is $FeCl_3$, which raises the effectiveness of polishing 30 to 40%. This agent was also tested with mirror glass of normal composition, but the results were not favorable. B.Z.K.

KACHALOV, N. N.

Author: Kachalov, N. N.

Title: Principles of the glass polishing and semi-staining processes.
(Osnovy protsessov shlifovki i polirovki stekla.)

City: Moscow

Publisher: Academy of Sciences of USSR

Date: 1948

Available: Library of Congress

Source: Monthly List of Russian Accessions, Vol. 4, No. 1, p. 26

KACHALOV, N. N.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 597 - I
BOOK Call No.: AF 437939

Authors: KITAYGORODSKIY, I. I., KACHALOV, N. N. and others
Full Title: GLASS TECHNOLOGY. 2nd ed., rev.
Transliterated Title: Tekhnologiya stekla. Izd. 2-e, perer.

PUBLISHING DATA
Originating Agency: None
Publishing House: State Publishing House for Literature on Building Materials
Date: 1951 No. pp.: 767 No. of copies: 6,000
Editorial Staff
Editor-in-Chief: Kitaygorodskiy, I. I.

PURPOSE: Approved by the Ministry of Higher Education as a textbook in courses in "Technology of Silicates".

TEXT DATA

Coverage: This is a textbook on the theory and principles underlying glass technology and on the physical and chemical properties of glass. Glass production techniques: types of glass-melting furnaces and materials for their construction; mechanical control and automatic regulation devices; processing, forming, finishing and specific treatment of glass for special purposes, e.g., optical glass, glass for electric and electronic appliances, laboratory glass, laminated safety glass and fancy glassware are studied in detail. Fabrication of fiber and foam glass is discussed in the last chapters. The book is well provided with pictures and diagrams.

No. of References: 35 Russian, 1934-1950

Facilities: Moscow Chemical and Technological Institute im. Mendeleyev; Leningrad

Tekhnologiya stekla. Izd. 2-e, perer AID 597 - I

Chemical and Technological Institute im. Lensovet (Leningrad Soviet).

[illegible]

Glass

New research in the field of glass technology, Priroda, 41, No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

1. KACHALOV, N. N.

2. USSR (600)

4. Lomonosov, Mikhail Vasil'evich, 1711-1765

7. M. V. Lomonosov, the founder of the science of glass. Priroda No. 2 1953

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KACHALOV, N.N.

**KACHALOV, N.N.**; BOKIN, P.Ya.; KORELOVA, A.I.

Grinding and polishing of synthetic ruby. Trudy Inst.krist. no.8: 315-328 '53. (MLRA 7:5)

1. Institut silikatov Akademii nauk SSSR.
(Rubies) (Grinding and polishing)

**KACHALOV, N.N.,** chlen korrespondent.

Scientific aid in rationalization of polished glass production. Stek.i ker. vol. 10 no.8:5-8 Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR. (Grinding and polishing) (Glass manufacture)

[illegible]

[illegible] 26, 311 [illegible] 13, 05 [illegible]
[illegible] C A 47 [illegible]

KACHALOV, N.N.

[redacted]

Il'ia Vasil'evich Grebenshchikov. Zhur. Priklad. Khim. 26, 345-7 '53.
(CA 47 no.18:9071 '53) (MLRA 6:4)

KACHALOV, N. N.

Journal of Applied Chemistry
April 1954
Industrial Inorganic Chemistry

**Use of powdered quartz sand for grinding or polishing of glass sheet. Russian tests.** Anon. (*Glass*, 1953, 30, 569).—*Owing to* the cost and scarcity of corundum sand is being increasingly used in Russia. Y. A. Brodskii and Z. M. Zin'kova (*Steklo i Keramika*, 1953, Sep., 9—13) question the results of T. E. Golba and N. N. Kachalov (*C.R. Acad. Sci., U.S.S.R.*, 1946) and report on their own experimental comparison of the grinding and polishing qualities of sand and corundum. Using a lens-grinding machine it was found that the abrasive power of corundum was 1·8 to 2·7 times that of sand and increased with the fineness. The quality of the finish (profilograph of Y. A. Brodskii; *Steklo i Keramika*, 1953, No. 2) given by sand was better, probably due to the uniformity of the grain size. The lower abrasive power of sand can be compensated by increased working pressure and the use of larger quantities.

J. A. SUGDEN.

KACHALOV, N.N.

USSR/ Chemistry - Glass utensils

**Card** : 1/1 Pub. 104 - 8/12

**Authors** : Kachalov, N. N., Yevstrop'ev, K. S. Dubrovo, S. K., Lipkin, V. M. and Borisov, K. I.

**Title** : Glass for utensils of chemical laboratories

**Periodical** : Stek. i ker. 11/7, 20 - 23, June 1954

**Abstract** : The article deals with experiments conducted in order to obtain a glass that could be produced in large quantities, be cheap, and still be suitable for chemical laboratory utensils. Such glass is intended to be resistant to heat and acids. The presence of boric anhydride in glass as an ingredient is found to improve its quality. From experimentation a glass designated as No. 29 was produced and a comparison of its properties with the No. 23 (formerly the best) is found to put it in first place. Tables; graph; illustrations.

**Institution** : ...

**Submitted** : ...

KACHALOV, N. N.

USSR/Miscellaneous

Card 1/1 Pub. 104 - 4/10

Authors : Kachalov, N. N., Mem. Corresp. of the Acad. Sci. of the USSR; Vargin, V. V., Dr. Tech. Sci. and Prof.

Title : Early Russian glasses

Periodical : Stek. i ker. 11/12, 11-13, Dec 1954

Abstract : The prevailing idea that the making of glass in Russia dates from the year 1935 is challenged by excavations which reveal that the working in glass and the making of ornamental articles were already at a high level of developmen in the period from the 10th to the 12th centuries, particularly, in the City of Kiev. Samples of this ancient glassware were recently analyzed in the laboratory of the Leningrad Technological Institute and the results of the analysis are given. Two Russian references (1947 and 1948). Table.

Institution : ...

Submitted : ...

to 7%. In one sample the chem. compn. is that of a high-melting, very short glass, with a very narrow interval of softening. This glass has 30% CaO + MgO. Another glass is very similar to modern Pb crystal glass, but [illegible] more [illegible] because of a relatively high [illegible] and a low $R_2O$ [illegible] their primitive furnaces. Unusual in one sample is its similarity to modern bottle glasses. Predominant are smalts for mosaics. Their chem. compns. are not much different from those used today. They are high in PbO (68%), low in $R_2O$. A Cu smalt is a typical aventurine glass, a black mosaic cube surprisingly similar in its compn. to a bright-yellow glass with subordinate changes as occur in repeated [illegible]

[illegible]

[illegible] glass [illegible] alkalies and to decrease its production cost.

KACHALOV, N.N.

[redacted]

Ways of introducing into industry the results of scientific research work. Vest. AN SSSR 26 no.9:46-50 S '56. (MLRA 9:11)

1. Chlen-korrespondent Akademii nauk SSSR.
(Research)

Качалов, Н. Н.

72-11-1/9

AUTHORS: Kachalov, N.N., Entelis, F.S.

TITLE: Soviet Artistic Glass Production (Sovetskoye khudozhestvennoye steklodeliye)

PERIODICAL: Steklo i Keramika, 1957, Nr 11, pp. 1 - 4 (USSR)

ABSTRACT: In 1939 the Soviet Union exhibited for the first time artistic glass products at New-York world exhibition; this was a crystal-fountain 4,25 m high. At the same time work startedin the field of artistic glass production at the Leningrad Technological Institute where under the direction of Professor V.V. Vargin a great variety of colored glasses, smalts and glazings as well as the molding method for the casting of great sculptures were developed. Also the characteristics of sand-blast technique were investigated in detail. In 1940, originated by some artists, began the works for the development of artistic glass production. In the Leningrad mirror factory an experimental department and a laboratory were found which had the task to carry out scientific research work in this field and to create new samples of articles for daily use and of decoration articles. This work was interrupted by the war and was picked up

Card 1/2

Soviet Artistic Glass Production

72-114/9

again only in 1948 with special attention being paid to the development of the building-glass production. In 1949 the above mentioned mirror-factory was transformed into a special factory for the production of artistic glass, which, in the course of some years, became the leading factory of its branch. There is 1 figure.

AVAILABLE: Library of Congress

Card 2/2

5(1) PHASE I BOOK EXPLOITATION SOV/1305

**Kachalov, N.**

Tekhnologiya shlifovki i polirovki listovogo stekla (Technology of Grinding and Polishing Plate Glass) Moscow, Izd-vo AN SSSR, 1958. 382 p. 6,000 copies printed.

**Sponsoring Agency:** Akademiya nauk SSSR.

**Resp. Ed.:** Medvedev, N.M.; **Ed. of Publishing House:** Perminov, S.V.; **Tech. Ed.:** Smirnova, A.V.

**PURPOSE:** This book is intended as a textbook for students at higher educational institutions taking a course in the technology of cold working of plate glass. It may also be used by engineers, technicians and scientists engaged in the study of cold working of glass and other fragile materials.

**COVERAGE:** The author gives the theoretical bases of the grinding and polishing manufacturing method and the most important data on grinding and polishing materials, and describes the installation and de-

Card 1/8

sign calculations for the equipment used in grinding and polishing plate glass. The characteristics of the devices and the methods that control the technical processes used in research on cold working of glass are also presented. The author makes liberal use of new data provided by Soviet and non-Soviet scientific literature. Personalities mentioned are: P.Ya. Bokin, A.I. Korelova, A.S. Totesh, F.K. Aleynikov, A.G. Voronov, and R.A. Govorova of the Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR); M.D. Zlotopol'skiy, N.M. Medvedev and Yu.F. Yulikova of the Leningradskiy tekhnologicheskiy institut imeni Lensoveta (Leningrad Technical Institute imeni Lensovet); K.G. Kumanin, V.M. Vinokurov, and S.M. Kuznetsov of the Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova (State Optical Institute imeni S.I. Vavilov); T.P. Kapustina of the Leningradskiy institut tochnoy mekhaniki i optiki (Leningrad Institute of Precision Mechanics and Optics); V.A. Perov of the Gornyy institut imeni G.V. Plekhanova (Mining Institute imeni G.V. Plekhanov); D.N. Liflyand of the Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki poleznykh iskopayemykh (All-Union Scientific Research Institute of the Mechanical Treatment of Minerals); Yu.A. Brodskiy, M.F.Karpov, and Ya.A. Trakhtenberg of the Vsesoyuznyy nauchno-issledovatel'skiy institut stekla

(All-Union Scientific Research Institute for Glass, Moscow); M.N. Semibratov of the Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E. Baumana (Moscow Higher Technical School imeni N.E. Bauman); B.S. Temkin of the Spetsial'noye proyektnoye konstruktorskoye byuro (Special Planning and Designing Office, Moscow); N.K. Dertev of the Politekhnicheskiy institut im. A.A. Zhdanova (Polytechnical Institute im. A.A. Zhdanov, Gor'kiy); and V.A. Dubrovskiy and R.I. Kushukova of the Konstantinovka Branch of the All-Union Scientific Research Institute for Glass. There are 264 references, of which 145 are Soviet, 58 English, 55 German, 3 French, and 3 Polish.

TABLE OF CONTENTS:

From the Author 3

I. Introduction 5

II. Abrasive Materials 15
  A. Varieties of abrasive materials 15

Technology of Grinding (Cont.) SOV/1305

1. Basic concepts 15
2. Grinding abrasive materials 15
3. Polishing abrasive materials 17

B. Methods of testing properties of abrasive materials 21
1. Hardness 21
2. Abrasive capacity 23
3. Granulometric analysis 24
    a. Screening analysis 24
    b. Analysis of sediment measurement 33
    c. Microscopic analysis 42

C. Classification on screens 44

D. Hydraulic classification 51
1. Established regularities for the settling of mineral particles in water 51
2. Equipment for hydraulic classification 56
3. Classifying cone of periodic action with upward current 59
4. Slime classifiers 63
5. Classifier operation in a closed cycle with grinders 66
6. Classification practice in grinding glass 69
    a. Clarification in calm water 69
    b. Classification during conveyor glass grinding 70

Card 4/8

c. Cone system 77
d. Combined classification system 79

III. Glass-Grinding Process 81
A. General concepts on the nature of the glass-grinding process 81
B. Productivity of the grinding process 83
1. Method of investigation 83
2. Effect of basic technological factors on grinding off 98
a. Amount of sand fed 98
b. Concentration of abrasive suspension 102
c. Coarseness of abrasive 106
d. Grinder pressure 114
e. Grinder speed 116
f. Force input on the grinding motion 118
g. Nature of abrasive 120
h. Grinder material 125
i. Chemical composition of liquid suspension phase 133
j. Grinder configuration and size 138
C. Glass layer destroyed by grinding 146
1. Structure, conditions of formation and method of investigation 146

2. Effect of technological factors on the depth of hollows 170
    a. Coarseness of sand 170
    b. Nature of abrasive 171
    c. Grinder material 173
    d. Grinder pressure and speed 175
3. Relationship between the depth of the destroyed layer and the depth of hollows of the ground glass 175

D. Mechanism of grinder operation 177
E. Effect of cleanliness of the granulometric abrasive composition on the characteristics of the grinding process 191
F. Standards to be met by "raw" glass 200
G. Effect of some physical and mechanical properties of brittle materials on the grinding process 205
    a. Results obtained from determining the basic characteristics of the grinding process of glass of different compositions 205
    b. Determining some physical and mechanical properties of glasses 206

c. Relationship between physical and mechanical properties of glass and the basic technological characteristics of the grinding process 209

IV. Process of Glass Polishing 218
  A. Prevailing views on the nature of the glass-polishing process 218
  B. Structure of the surface layer of polished glass 238
  C. Productivity of the polishing process 263
    1. Method of determining the productivity of the polishing process 263
    2. Effect of the basic technological factors 269
      a. Amount of iron oxide fed 269
      b. Concentration of the iron oxide suspension 271
      c. Polisher pressure 273
      d. Grinder speed 274
      e. Temperature of the surroundings and the glass surface 275
      f. Force used on moving the polisher 277
      g. Polishing device sizes 279
      h. Polisher material 281

Card 7/8

Technology of Grinding (Cont.) SOV/1305

  i. Nature and properties of the polishing powder 290
  j. Nature of liquid 299
  k. Glass composition 305

V. Rational Design of the Grinding-polishing Equipment 309
VI. Machines for Grinding and Polishing Plate Glass 331
  A. General data on machinery for grinding and polishing plate glass 331
  B. Machinery for specific purposes 339
  C. ShS-500 Conveyor 350
  D. Brief description of the ShS-1000 Conveyor and of the Conveyor for working both sides of the glass 365

Bibliography 372

AVAILABLE: Library of Congress

TM/sfm
4-21-59

Card 8/8

SOV/81-59-10-35728

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 328 (USSR)

AUTHORS: Kachalov, N.N., Korelova, A.I. 15

TITLE: On the Theory of the Glass Polishing Process by Academician I.V. Grebenshchikov and Its Development

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1958, Nr 49, pp 11-17

ABSTRACT: The article has not been reviewed.

Card 1/1

24.7400
~~24 (2)~~

67908

SOV/20-129-5-14/64

AUTHORS: Kachalov, N. N., Corresponding Member, Academy of Sciences, USSR, Grigor'yeva, L. F.

TITLE: The Dependence of the Process of Grinding Crystals on Their Physical and Mechanical Properties H

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 5, pp 1012-1015 (USSR)

ABSTRACT: The present paper deals with a number of materials much used in industry, viz. with single crystals of germanium, quartz, and corundum as well as with polycrystalline compounds with zinc blende structure (GaAs, $Ga_2Se_3$, ZnSe, InSb, $In_2Te_3$, CdTe, InAs, CdSe, GaSb), which are crystallo-chemical analogs of germanium and silicon. The grinding process is characterized by 3 main factors namely by reproducibility, the thickness of the relief layer, and by the thickness of the destroyed layer. The germanium- and silicon samples were ground along the planes (111), (110), and (100), and corundum along the planes $(11\bar{2}0)$ and (0001). In quartz, the plates of Z- and X-sections were investigated. Micropowders of diamonds, boron carbide, silicon carbide, and electrocorundum served as abrasive powders. The

Card 1/4

67908

The Dependence of the Process of Grinding Crystals on Their Physical and Mechanical Properties SOV/20-129-5-14/64

results obtained by individual experiments deviated by never more than 12% from their mean values. In order to be able to investigate the dependence of the grinding process on the properties of the materials to be ground, such physical and mechanical properties were determined as are correlated with their strength and structure. The elastic constants (shear coefficient, Young's modulus, and Poisson's coefficient) were determined by means of a device of the type UIZS-5 from the velocity of the passage on longitudinal and transversal ultrasonic waves. Microhardness was measured by means of a device of the type PMT-3 and the microhardness in stripping, as well as the microstrength during fracture and the criterion of brittleness were determined according to the method developed by N. K. Dertev (Ref 3). The brittleness or plasticity of the materials investigated was characterized by means of a brittleness criterion developed by G. V. Uzhik (Ref 14). The method of reciprocal grinding developed by V. D. Kuznetsov (Ref 15) and the results obtained by B. F. Ormont (Ref 16) are then mentioned. The physical and mechanical

Card 2/4

67908
SOV/20-129-5-14/64

The Dependence of the Process of Grinding Crystals on Their Physical and Mechanical Properties

properties of the materials investigated vary within wide limits. Thus, one finds: $N = K_4/H^n$, $h = K_5/H^{n_1}$, $N = K_6/R^{n_2}$; $h = K_7/h^{n_3}$, $N = K_8/(G - K_0)$; $h = K_9/G$. Here N denotes the coefficient of "volume grindability", h - the thickness of the relief-like layer of the materials investigated, R - microstrength in the case of fracture, and G - the shear modulus. $K_4$, $K_5$, $K_6$, $K_7$, $K_8$, $K_9$, $K_0$, $n$, $n_1$, $n_2$ and $n_3$ are constant coefficients. Materials with a brittleness criterion $T \leqslant 1$ do not satisfy the aforementioned relations. The above-mentioned functions are similar to the relations determined by F. K. Aleynikov (Ref 5) for glass. The similarity between the properties of the brittle state of the crystalline materials investigated and those of glass is responsible for the similarity in the character of their grinding processes. There are 2 figures, 2 tables, and 16 references, 14 of which are Soviet.

Card 3/4

67908

The Dependence of the Process of Grinding Crystals on Their Physical and Mechanical Properties

SOV/20-129-5-14/64

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences of the USSR)

SUBMITTED: July 23, 1959

Card 4/4

KACHALOV, N.N.; GRIGOR'YEVA, L.F.

Features of the process of grinding certain crystalline materials.
Inzh.-fiz.zhur. no.1:35-40 Ja '60. (MIRA 13:4)

1. Institut Khimii silikatov.AN SSSR, Leningrad.
(Grinding and polishing) (Crystals)

KACHALOV, N.N.; KORELOVA, A.I.

Academician I.V. Grebenshchikov's theory on glass polishing and its further development. Trudy LTI no.49:11-17 '58. (MIRA 15:5)

(Glass research)

KACHALOV, N.N.; BOKIN, P.Ya.; KORELOVA, A.I.

Glass grinding and polishing with an apparatus of great pressure and speed. Trudy LTI no.49:18-24 '58. (MIRA 15:5)
(Glass)
(Grinding and polishing)

KACHALOV, N.N.; BOKIN, P.Ya.; DEMICHEV, S.A.; ROMANOV, B.Ye.

Grinding glass with garnet powder. Trudy LTI no.49:25-29 '53. (MIRA 15:5)

(Glass) (Grinding and polishing) (Garnet)

KACHALOV, N.N.; BOKIN, P.Ya.

New polishing materials. Trudy LTI no.49:30-36 '58. (MIRA 15:5)
(Glass)
(Grinding and polishing)

KITAYGORODSKIY, I.I., doktor tekhn. nauk, prof.; KACHALOV, N.N., prof.; VARGIN, V.V., doktor tekhn. nauk, prof.; YEVSTROP'YEV, K.S., doktor tekhn. nauk, prof.; GINZBURG, D.B., doktor tekhn. nauk, prof.; ASLANOVA, M.S., doktor tekhn. nauk, prof.; GURFINKEL', I.Ye., inzh.; ZAK, A.P., kand. tekhn. nauk; KOTLYAR, A.Ye., inzh.; PAVLUSHKIN, N.M., doktor tekhn. nauk, prof.; SENTYURIN, G.G., kand. tekhn. nauk; SIL'VESTROVICH, S.I., kand. tekhn. nauk, dots.; SOLINOV, F.G., kand. tekhn. nauk; SOLOMIN, N.V., doktor tekhn. nauk, prof.; TEMKIN, B.S., kand. tekhn. nauk; GLADYSHEVA, S.A., red. izd-va; TEMKINA, Ye.L., tekhn. red.

[Glass technology] Tekhnologiia stekla. Izd.3., perer. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 622 p. (MIRA 14:10)

1. Chlen-korrespondent AN SSSR (for Kachalov).
(Glass manufacture)

PODSHIVALENKO, P.D.; BALIKHIN, M.I.; BASHINSKIY, S.V.[deceased];
IVANOV, N.A.; KACHALOV, N.N.; NEMKOV, G.P.; ONUFRIYEV,
I.A.; PERESLEGIN, V.I.; RUMYANTSEV, A.F.; RUSAKOV, A.N.;
SEMENOV, I.Ya.; STOMAKHIN, I.B.; FILIPPOV, V.F.;
[illegible]

[Economics of construction; a textbook] Ekonomika stroitel'stva; uchebnik. Moskva, Politizdat, 1964. 542 p.
(MIRA 18:8)

1. Kommunisticheskaya Partiya Sovetskogo Soyuza. Vysshaya Partiynaya shkola.